

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

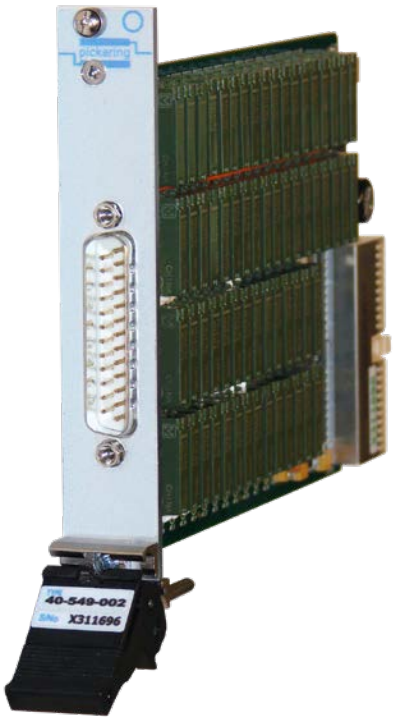
Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

PXI 5A Power EMR Matrix 40-549

- High Density, High Current Switching
- 1-Pole Power Matrix Available in Single 16x4, Single 8x8, Dual 8x4 and Single 8x4 Formats
- 5A Current Rating With 150W/1250VA Maximum Power
- Hot Switch to 110VDC/250VAC, Cold Switch to 400VDC/250VAC
- High Quality Electro-mechanical Relays
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty



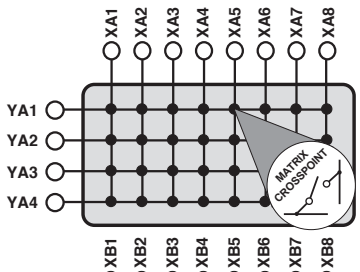
The 40-549 is a single pole power matrix module, suitable for switching inductive/capacitive loads up to 5A with 110VDC/250VAC hot switching and 400VDC/250VAC cold switching. It is available in the following configurations:

- 40-549-001 Single 16x4 1-Pole Matrix
- 40-549-002 Single 8x8 1-Pole Matrix
- 40-549-003 Dual 8x4 1-Pole Matrix
- 40-549-004 Single 8x4 1-Pole Matrix

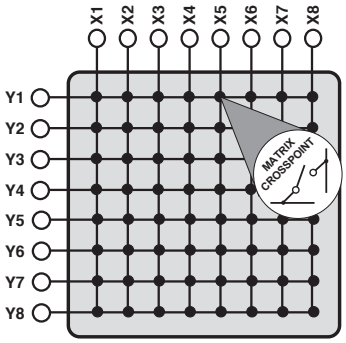
Connections are made via a front panel 25-pin D-type plug which is supported by our comprehensive range of cables and connectors.

Power Matrix Modules are intended for switching heavy AC or DC loads or for slave switching large external relays, contactors or solenoids.

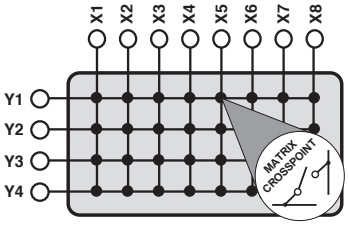
The module is suitable for applications requiring switching of either mains voltage or DC current.



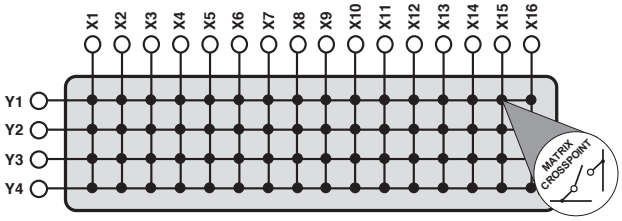
40-549-003 Dual 8x4 Power Matrix



40-549-002 8x8 Power Matrix



40-549-004 8x4 Power Matrix



40-549-001 16x4 Power Matrix

ISSUE 3.1 NOV 2020

Relay Type

The 40-549 is fitted with electro-mechanical power relays, gold clad silver alloy.

Switching Specification

Contact Type:	Gold clad silver alloy
Cold Switching Capacity Maximum Current: Maximum Voltage: Typical Pulse Capability:	 5A 400VDC/250VAC* Cold Switch 10A for 100ms under low duty cycle conditions (please contact sales office for further advice)
Hot Switching Capacity Maximum Current: Maximum Voltage: Maximum Power:† Minimum Switching Capacity:	 5A 110VDC/250VAC* 150W/1250VA 10mA, 5VDC ‡
Initial On Path Resistance: Off Path Resistance:	<150mΩ (60mΩ typical) $>10^9$Ω
Bandwidth (3dB insertion loss into 50Ω typically better than): Crosstalk (channel to channel typically better than): Isolation (open channel typically better than): 	20MHz -70dB @ 100kHz -55dB @ 1MHz -24dB @ 10MHz 75dB @ 100kHz 60dB @ 1MHz 20dB @ 10MHz
Operate Time:	10ms typical
Expected Life (operations) - resistive load Mechanical Life: At Max. Switch Capacity:	 $>2x10^7$ $>5x10^4$ (5A 250VAC, 5A 30VDC) $>1x10^5$ (3A 250VAC, 3A 30VDC)

* For full voltage rating, signal sources to be switched must be fully isolated from mains supply and safety earth.

† For variation of maximum hot switching capacity of voltage with current refer to plot.

‡ Hot switching at/beyond the levels specified is recommended for optimal contact resistance stability. These values can change due to factors such as switching frequency, environmental conditions & desired reliability level.

PXI & CompactPCI Compliance

The module is compliant with the PXI Specification 2.2. Local Bus, Trigger Bus and Star Trigger are not implemented.

Uses a 33MHz 32-bit backplane interface.

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2010, EMC Immunity EN61326-1:2013, Emissions EN55011:2009+A1:2010.

Power Requirements

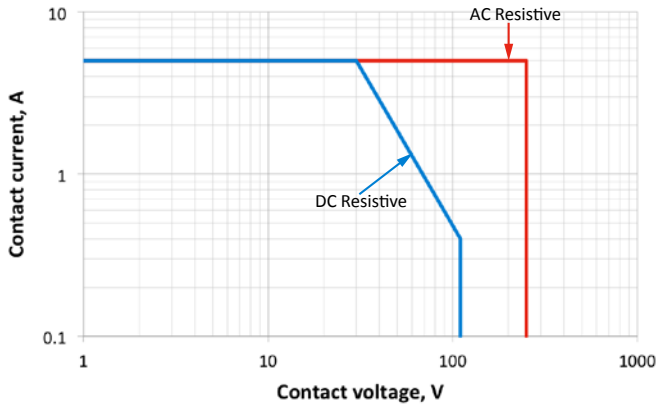
+3.3V	+5V	+12V	-12V
0	1.5A	30mA	0

Mechanical Characteristics

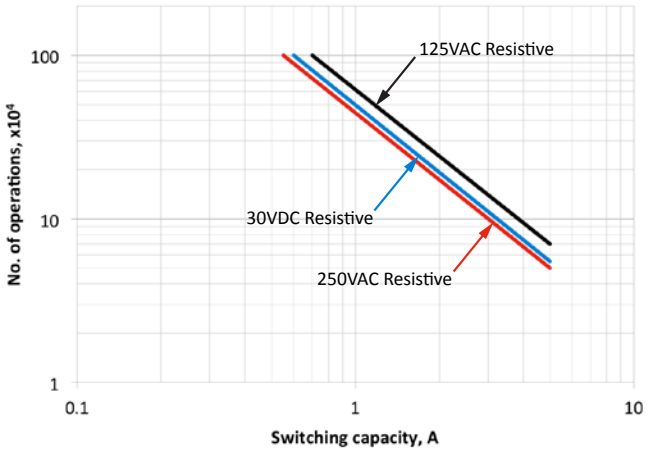
Single slot 3U PXI (CompactPCI card).
3D models for all versions in a variety of popular file formats are available on request.

Connectors

PXI bus via 32-bit P1/J1 backplane connector.
Signals via front panel 25-pin male-D-type connector, for pin outs please refer to the operating manual.



40-549 Current/Voltage Plot



40-549 Current/Operating Life Plot

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0°C to +55°C
Humidity:	Up to 90% non-condensing
Altitude:	5000m

Storage and Transport Conditions

Storage Temperature:	-20°C to +75°C
Humidity:	Up to 90% non-condensing
Altitude:	15000m

Product Order Codes

5A Power EMR 1-Pole Matrix, Single 16x4	40-549-001
5A Power EMR 1-Pole Matrix, Single 8x8	40-549-002
5A Power EMR 1-Pole Matrix, Dual 8x4	40-549-003
5A Power EMR 1-Pole Matrix, Single 8x4	40-549-004

Product Customization

Pickering PXI modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

Customization can include:

- Alternative relay types
- Mixture of relay types
- Alternative number of relays
- Different performance specifications

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.

Support Products

Spare Relay Kits

Kits of replacement relays are available for the majority of Pickering's PXI switching products, simplifying servicing and reducing down-time.

Product	Relay Kit
40-549-001	91-100-020
40-549-002	91-100-020
40-549-003	91-100-020
40-549-004	91-100-020

For further assistance, please contact your local Pickering sales office.

Mating Connectors & Cabling

For connection accessories for the 40-549 modules please refer to the 90-008D 25-pin D-type Connector Accessories data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.

Chassis Compatibility

This PXI module must be used in a suitable chassis. It is compatible with the following chassis types:

- All chassis conforming to the 3U PXI and 3U Compact PCI (cPCI) specification
- Legacy and Hybrid Peripheral slots in a 3U PXI Express (PXIe) chassis
- Pickering Interfaces LXI or LXI/USB Modular Chassis



Chassis Selection Guide

Standard PXI or hybrid PXIe Chassis from any Vendor:

- Mix our 1000+ PXI switching & simulation modules with any vendor's PXI instrumentation
- Embedded or remote Windows PC control
- Real-time Operating System Support
- High data bandwidths, especially with PXI Express
- Integrated module timing and synchronization

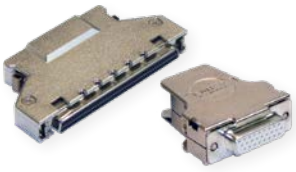


Pickering LXI or LXI/USB Modular Chassis—only accept our 1000+ PXI Switching & Simulation Modules:

- Ethernet or USB control enables remote operation
- Low-cost control from practically any controller
- LXI provides manual control via Web browsers
- Driverless software support
- Power sequencing immunity
- Ethernet provides chassis/controller voltage isolation
- Independence from Windows operating system

Connectivity Solutions

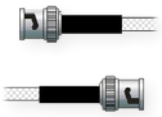
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed to mechanically and electrically mate to our modules.



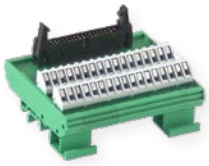
Connectors & Backshells



Multiway Cable Assemblies



RF Cable Assemblies



Connector Blocks

We also offer customized cabling and have a free online **Cable Design Tool** that can be used to create custom cable solutions for many applications.
Visit: pickeringtest.com/cdt to start your design.



Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required for a PXI or LXI based test system. Our modules are fully supported by both Virginia Panel and MacPanel.

Pickering Reed Relays

We are the only switch provider with in-house reed relay manufacturing capability via our Relay Division. These instrument grade reed relays feature ***SoftCenter***™ technology, ensuring long service life and repeatable contact performance.

To learn more, please go to: pickeringrelay.com



Programming

Pickering provide kernel, IVI and VISA (NI & Keysight) drivers which are compatible with all Microsoft supported versions of Windows and popular older versions. For a list of all supporting operating systems, please see: pickeringtest.com/os

The VISA driver is also compatible with Real-Time Operating Systems such as LabVIEW RT. For other RTOS support contact Pickering. These drivers may be used with a variety of programming environments and applications including:

- **Pickering Interfaces Switch Path Manager**
- **National Instruments** products (LabVIEW, LabWindows/CVI, Switch Executive, MAX, TestStand, VeriStand, etc.)
- **Microsoft Visual Studio** products (Visual Basic, Visual C+)
- **Keysight** VEE and OpenTAP
- **Mathworks** Matlab
- **Marvin** ATEasy
- **MTQ Testsolutions** Tecap Test & Measurement Suite

Drivers for popular Linux distributions are available, other environments are also supported, please contact Pickering with specific enquiries. We provide Soft Front Panels (SFPs) for our products for familiarity and manual control, as well as comprehensive documentation and example programs to help you develop test routines with ease.
To learn more about software drivers and development environments, please go to: pickeringtest.com/software

Signal Routing Software



Our signal routing software, Switch Path Manager, automatically selects and energizes switch paths through Pickering switching systems. Signal routing is performed by simply defining test system endpoints to be connected together, greatly accelerating Test System software development. To learn more, please go to: pickeringtest.com/spm

Diagnostic Relay Test Tools



eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.
To learn more, please go to: pickeringtest.com/ebirst

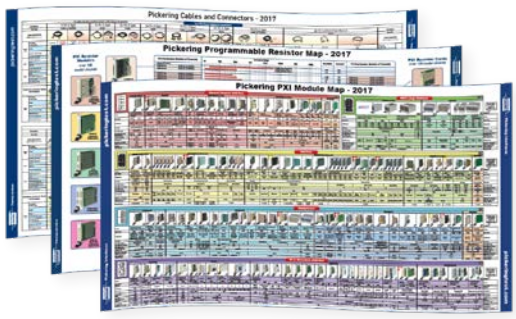
Three Year Warranty & Guaranteed Long-Term Support

All standard products manufactured by Pickering Interfaces are warranted against defective materials and workmanship for a period of three years from the date of delivery to the original purchaser. Extended warranty and service agreements are available for all our modules and systems with various levels to suit your requirements. Although we offer a 3-year warranty as standard, we also include guaranteed long-term support—with a history of supporting our products for typically 15-20 years. To learn more, please go to: pickeringtest.com/support

Available Product Resources

We have a large library of product resources including success stories, product and support videos, articles, as well as complete product catalogs and product reference maps to assist when looking for the switching, simulation and cable and connector solutions you need. We have also published handy reference books on Switching Technology and for the PXI and LXI standards.







To view, download or request any of our product resources, please visit: pickeringtest.com/resources

© Copyright (2020) Pickering Interfaces. All Rights Reserved
Pickering Interfaces maintains a commitment to continuous product development, consequently we reserve the right to vary from the description given in this data sheet.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP